



Evaluation of a Planned Rest/Nap for Hospital Night-Shift Nurses

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Diane Drake, PhD, RN

Monica Malcuit, RN, MSN, CCRN

St. Joseph Health

Mission • Mission Laguna Beach



Diane Drake PhD RN
Nurse Research Scientist
Diane.Drake@stjoe.org

Monica Malcuit RN MSN CCRN
House Supervisor
Monica.Malcuit@stjoe.org




Mission Hospital
Mission Viejo and Laguna Beach
California, USA

We acknowledge there are no conflicts of interest in conducting this research or concerning this presentation.

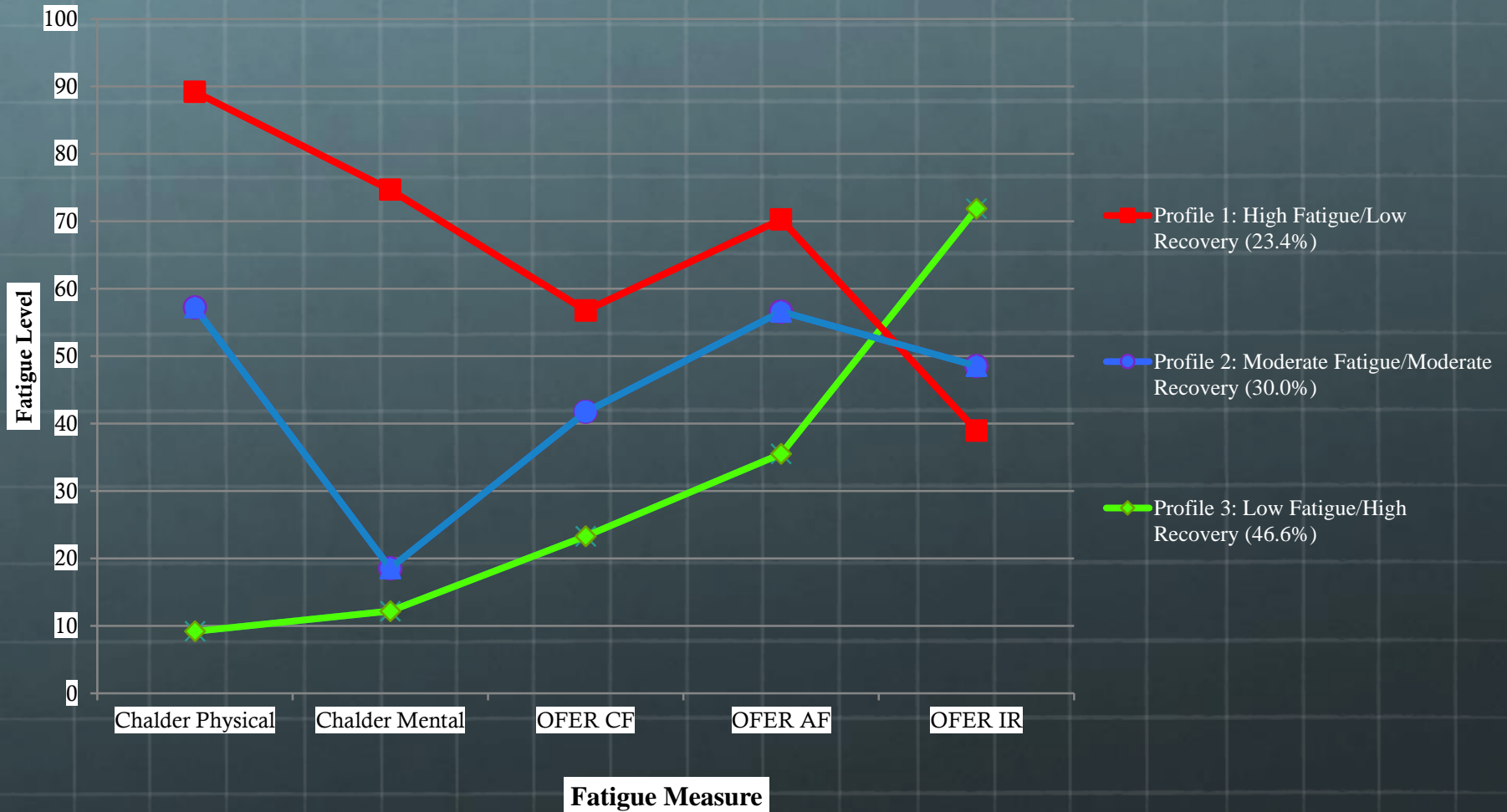
Discussion Points

-  Describe the investigation of hospital nurse fatigue and importance of fatigue risk management.
-  Discuss findings from a 2016 study to evaluate a planned rest/nap for hospital night-shift nurses.

Fatigue Risk Management Recommendations

-  The Institute of Medicine recommended research to identify methods to help night shift workers mitigate fatigue (IOM, 2012).
-  The American Nurses Association position statement on nurse fatigue states there is a dual responsibility and recommended investigation of fatigue counter measures (ANA, 2014).
-  Centers for Disease Control and National Institute of Occupational Safety and Health (NIOSH) created online training (CDC, 2015).

Mission Hospital 2012 Fatigue Scores





Fatigue Risk Management Research Strategies

- Monitor Fatigue
 - Longitudinal analyses
 - Unit evaluation
 - Individual evaluation

- Mediate Fatigue
 - Planned Naps
 - Work/life balance
 - Promote Fatigue Risk Management



Aims

- 🌐 Describe nurse participation in a planned rest/nap.
- 🌐 Evaluate changes in nurse fatigue and sleep scores.
- 🌐 Report hospital unit medication errors and difficulties with sleep room logistics.



Methods

Following Institutional Review Board approval in December 2015, a rest/nap room was completed on the Surgical Intensive Care Unit (SICU).

All full-time, night-shift SICU RNs were invited to participate in the study.

- Must have managed an independent assignment for at least 6 months
- May not have had a diagnosis of a primary sleep disorder
- Were willing to provide consent

Fatigue Risk Management Strategy





- Planned restorative nap during breaks and meal periods
- Naps as short as 20 minutes increased alertness, reduced sleepiness and improved performance
- Napping enhanced mood, energy levels and response times
- Provide a break nurse for uninterrupted rest period
- Designate a quiet, comfortable environment for breaks
- Schedule breaks between 0100-0400 AM

(Fallis, 2011)

Recruitment of Participants

Email invitation weekly x 4 weeks

Announced at staff and unit council meetings

-  21 - Respondents
-  17 - Eligible: 1 dropped at Week #6
-  4 - Ineligible
-  16 - Participants

Participant Welcome Packets

Throw Blanket, Up Band, Ear Plugs,
Eye Cover, Chapstick



Study Measures



- Online Survey-Weeks Zero, 6 and 12
 - Descriptive Information-Week Zero
 - Pittsburgh Sleep Quality Index
 - Epworth Sleepiness Scale
 - Fatigue Scales
 - Occupational Fatigue, Recovery and Exhaustion Scale
 - Chalder Fatigue Scale
- Study Log (Weeks 1-12)
 - Planned Nap Rate
 - Use of Up Band
 - Room Logistics
- Manager Report (Weeks 1-12)
 - Medication Error Rate
 - Break Nurse Available

2016 Night Nurse Naps Study Schema

2/1/2016

Study Recruitment (January 15 - February 15)

- Invite Participants
- Complete Eligibility Checklists
- Prepare Sleep Room
- Prepare Study Packets and Online Survey



Study Enrollment (February 11 - 25)

- Distribute Online Survey 1 to Eligible Nurses
- Nurse Consent and Completion of Survey 1
- Nurses receive Study Packet (Up Bands, Study Forms)
- Nurses begin use of sleep room
- Nurses begin completion of weekly log (week 1)



Study Weeks 1 - 6 (February 16 - April 7)

- Collect and summarize weekly Nurse logs
- Collect and summarize weekly Manager report
- Distribute Online Survey 2 (week 6)



Study Weeks 7 - 12 (March 29 - May 19)

- Collect and summarize weekly Nurse logs
- Collect and summarize weekly Manager report
- Distribute Online Survey 3 (week 12)
- Close study

Descriptive Results





Sixteen nurses, thirteen females and three males completed the twelve-week study.

- The average age was 37
- Highest education was BSN (11), and ADN (5)
- Continuous night shift work years (n=16)
 - Mean (s.d) = 7.09 (7.36) years
 - Range = 2-23 years

Descriptive Results (continued)

- Chronotypes
 - Ten were more evening type (owls)
 - Six were more morning type (larks)
- History of napping at work prior to the study
 - Nine reported “never” napping at work
 - Seven reported “only occasionally” napping at work
 - None reported “always or often” took a nap at work

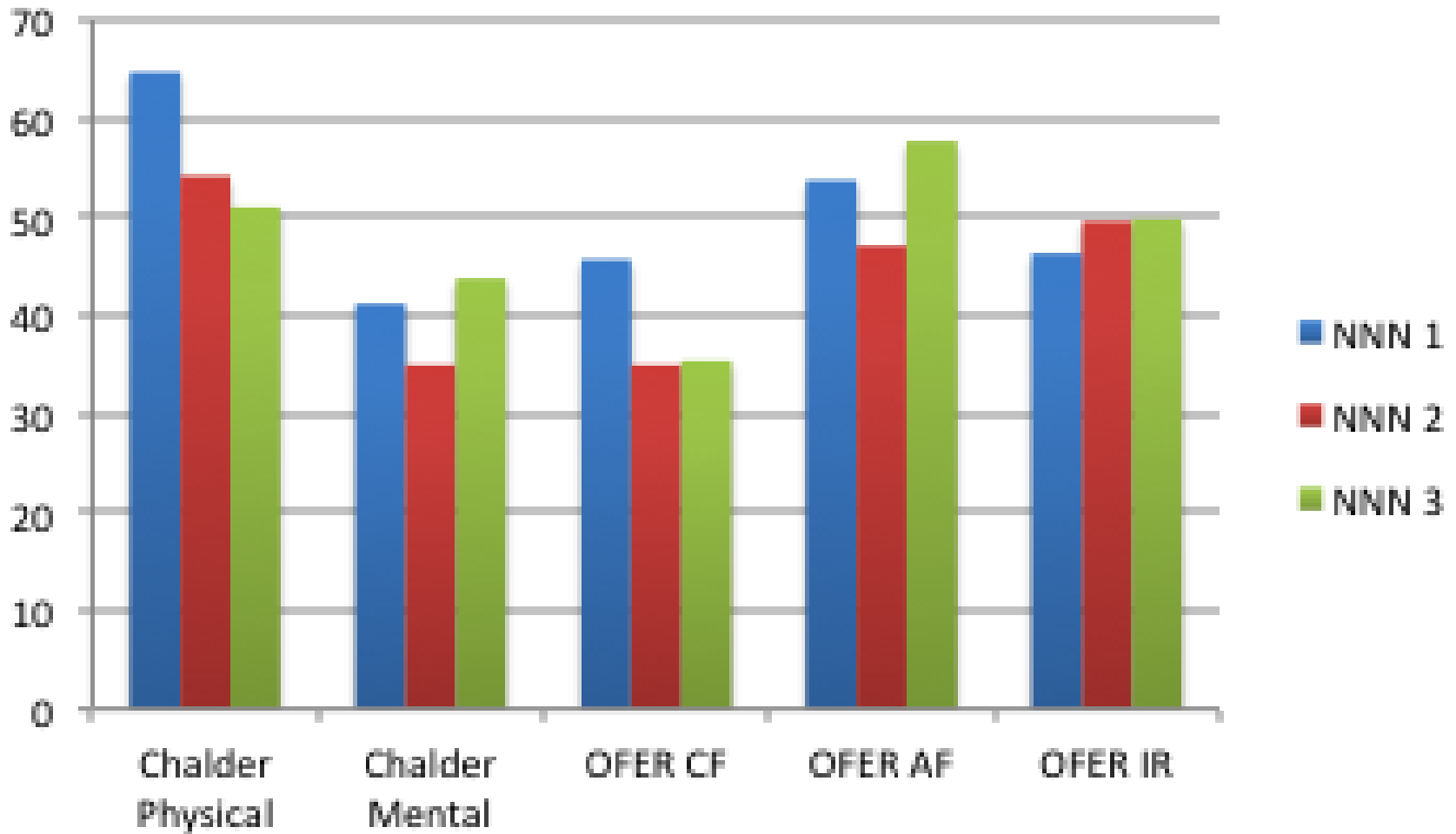
Rest/Nap Participation

-  Average RN rest/nap participation during the twelve-week study was 62% with a range of 42% - 86%.
-  Of 573 shifts worked, 196 naps were taken and 160 rests were taken.
-  The majority, twelve RNs reported taking a combination of rest and naps.
-  Two RNs took naps only, and two RNs took rests only.

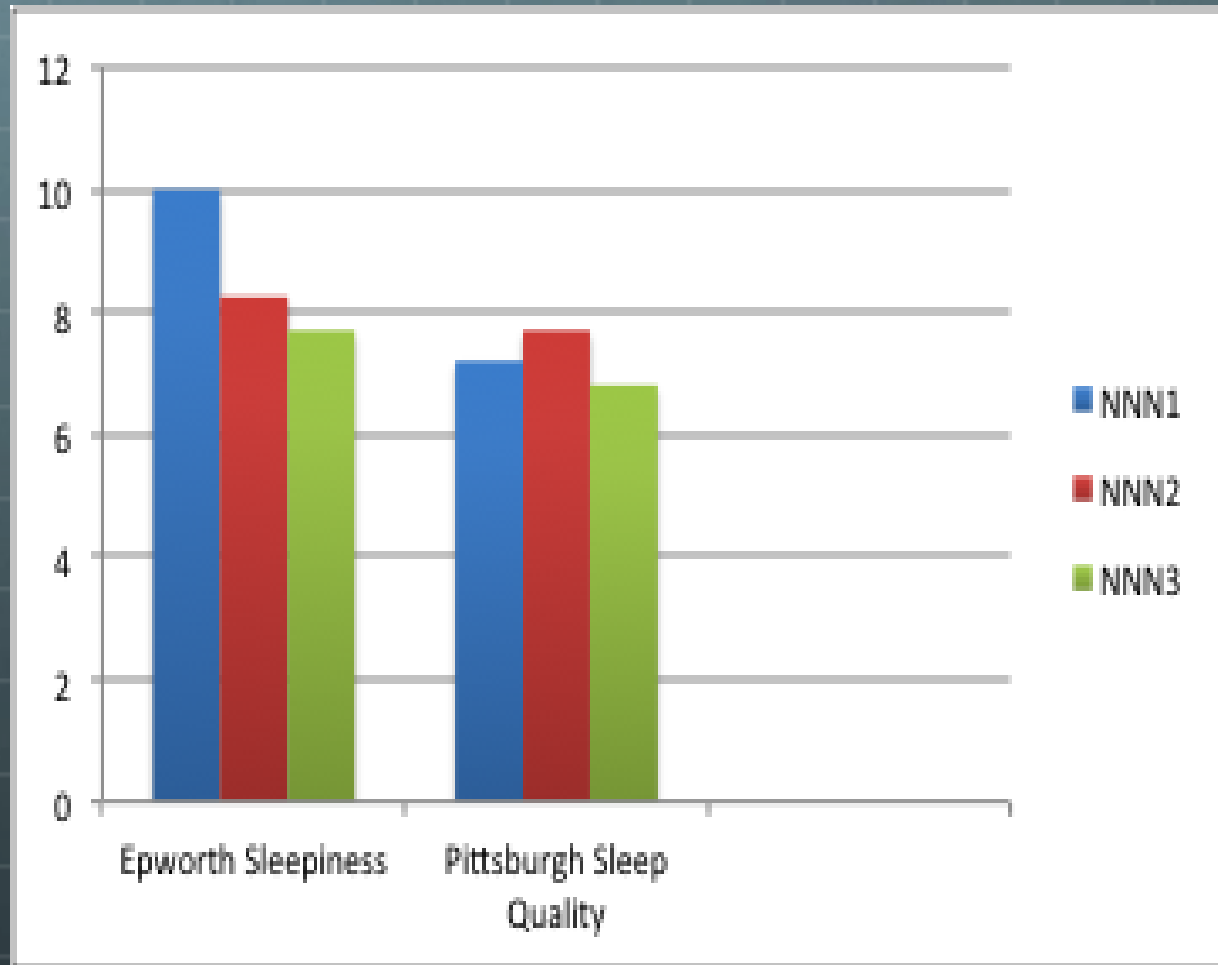
Fatigue and Sleep Survey Results

| Average Fatigue and Sleep Scores (range) | Pre-study Week 0 | Mid-study Week 6 | Post-study Week 12 |
|---|-------------------------|-------------------------|---------------------------|
| Physical Fatigue (0-100) | 64.7 (29.93) | 54.16 (33.05) | 51.03 (35.21) |
| Mental Fatigue (0-100) | 41.17 (34.97) | 35.0(38.29) | 43.75 (40.8) |
| Chronic Fatigue (0-100) | 45.68 (23.85) | 35 (14.95) | 35.41 (23.24) |
| Acute Fatigue (0-100) | 53.72 (7.62) | 47.08 (6.42) | 57.71 (14.89) |
| Inter-shift Recovery (0-100) | 46.27 (8.8) | 49.58 (15.38) | 49.79 (17.53) |
| Epworth Sleepiness Scale (0-24) | 10.05 (3.03) | 8.25 (5) | 7.68 (5.08) |
| Total Pittsburgh Sleep Quality (0-21) | 7.18 (2.78) | 7.66 (4.58) | 6.75 (3.73) |

Average Fatigue Scores
Baseline N1
Week Six N2
Week Twelve N3



Average Sleep Scores
Baseline N1
Week Six N2
Week Twelve N3





Study Log Results

- There were four reports by RNs of difficulty with room logistics because the rest/nap room was not available (already scheduled).
- There were seventeen reports the rest/nap room was noisy.
- RN use of UpBands was 50%
 - 56% in first 6 weeks and 43% in weeks 6-12
 - (only 1 RN did not report any use of the UpBand)

Manager Report Results

Weekly manager reports provided to the study team during the study period specifically focused on all SICU nurses, shifts and medication/medical errors.

-  There was one “low risk” of harm to the patient medication error reported by pharmacy during the study period
-  Relief nurse availability was 72% during the 12-week study







SICU Culture

Prior to the study, Night RNs..

- Did not have a routine for naps or breaks
- Did not routinely leave the bedside for breaks
- Did not have a dedicated room on the unit for nap/rest



Rest/Nap Log Comments

-  I used an app for white noise
-  Once I found my routine, I was able to dose off faster
-  I looked forward to the quiet time away from the bedside
-  I was less tired on my drive home
-  I went to bed later on my days off
-  Most times, I did not suffer from sleep inertia

Unit Culture Changes Observed by Charge Nurse

During the Course of the Study

- Nurses looked forward to taking a break
- Nurses not included in the study started leaving the bedside for their break
- Nurses not included in the study started using their breaks for sleep
- Increased communication on the unit about breaks
- Interest in keeping the rest/nap room on the unit at completion of the study

Conclusions

This twelve-week study demonstrated that nurses who previously would never or only occasionally rest or nap were able to rest/nap on most shifts worked.

RNs reported less physical fatigue and less sleepiness following a twelve-week planned rest/nap intervention.

The findings in this study support the shared responsibility of fatigue risk management between nursing leadership and clinical nursing staff.

Clinical Indications and Recommendations

- 🌐 Many hospital nursing units provide a break room where nurses may rest or eat away from patient care
- 🌐 Designated rest/nap rooms are not commonly available to nursing staff
- 🌐 Nursing leadership designation of a rest/nap room was essential
- 🌐 RNs used a rest/nap room with few logistic concerns

Limitations

- 🌐 The study had a small convenience sample in a single hospital unit
- 🌐 There was no control group
- 🌐 Results were limited to twelve-week observations
- 🌐 Only subjective measures were used

Recommendations

- 🌐 Evaluate quarterly rest/nap participation rates
- 🌐 Compare addition of other interventions (dietary, exercise) with rest/nap
- 🌐 Monitor nurse and hospital fatigue risk management strategies

Night Nurse Nap 2016 Study Team Members

Principal Investigator

Monica Malcuit, MSN, RN, CCRN

Co-Investigators

Diane Drake, PhD, RN

Nora McCall, MSN, RN, CNML

Study Team Members

Arianna Barnes, BSN, RN

Tom Crandell, BSN, RN, CCRN

Deanne Niedziela, MSN, RN, CCRN





Mission Hospital Laguna Beach

Mission Hospital
Laguna Beach
ST. JOSEPH



31872

Mission Hospital
Laguna Beach
ST. JOSEPH

